

*The District of Columbia
Water and Sewer Authority
and the
District of Columbia
Department of Health
acknowledge
National Lead Awareness Week
and its impacts on your health.*

Living Lead-Free in D.C.

October 2002

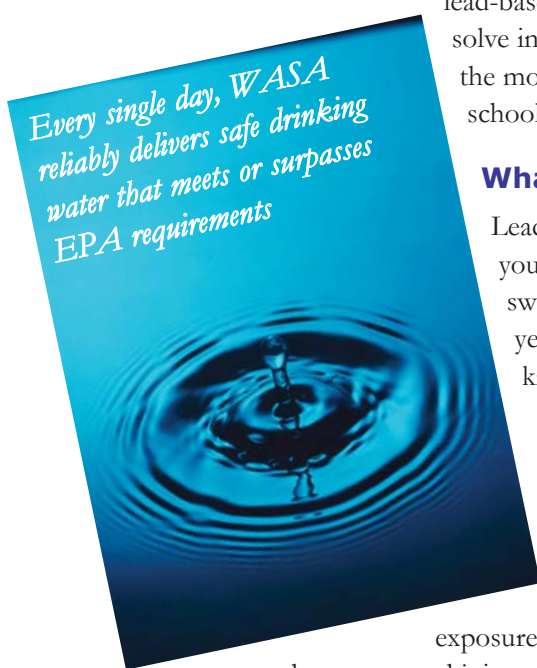


Government of the District of Columbia
Anthony A. Williams, Mayor



What is Lead?

Lead is a common metal, used historically for a variety of purposes. It can be found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery, porcelain and pewter, water, and other sources. When water stands in lead pipes or copper pipes connected by lead-based solder for several hours, the potential exists for lead to dissolve into the water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.



What Are the Health Effects of Lead?

Lead can pose a significant risk to health if too much of it enters your body. Even small amounts of lead can be harmful if swallowed or inhaled. If lead accumulates in the body over many years, it can cause damage to the brain, red blood cells, and kidneys.

Lead from chipping and flaking paint, if ingested, can cause significant health impacts especially for small children.

Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.

Does Lead Affect Everyone Equally?

The greatest risk is to young children and pregnant women. Amounts of lead that will not hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination like dirt and dust that rarely affect an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

Any child may be at risk, because lead is present in many sources. Children can be harmed by lead regardless of whether they live in a city, suburb or rural area, their family's economic background, or their ethnic background. They may be exposed to lead at home, school, day care, and on playgrounds.



The effects may not be obvious. But low levels of lead may damage the nervous system, including the brain, interfere with growth, harm hearing, lower IQ scores, make learning difficult. Exposure to low levels of lead may also affect a child's behavior, making him or her more excitable or less able to concentrate.

Lead in Drinking Water

The United States Environmental Protection Agency (EPA), the District of Columbia Water and Sewer Authority (WASA), and the DC Department of Health (DOH) want you to be fully informed about lead in your drinking water and lead from other sources. The most common cause of lead in drinking water is corrosion, a reaction between the water and lead pipes, fixtures containing lead such as brass and chrome-plated faucets or lead-based solder to connect copper pipes installed in interior household plumbing prior to 1987. In 1991, the EPA required public water utilities to test for lead. In areas where high lead levels were found, the utilities were required to take steps to reduce contamination.

Under federal law the water supplier is required to have a program in place to minimize lead in your drinking water. The Washington Aqueduct (WA) Division of the Army Corps of Engineers is the wholesale supplier of water to WASA. In compliance with federal requirements, WA has performed an optimal corrosion control study to minimize lead in the drinking water. The Optimal Corrosion Control Treatment (OCCT) was designated for WA by the EPA, and OCCT was implemented by WA in 1993. The OCCT implemented by the WA applies to the WASA water distribution system as WA is a wholesale supplier of drinking water and has no distribution system of its own. Under the OCCT requirements, a pH of 7.4 to 7.7 must be maintained at the entry points to the distribution system and a minimum pH of 7.0 is to be maintained in the distribution system. The purpose of the OCCT is to control the corrosivity of water and thus minimize leaching of lead or copper from lead service lines and customer plumbing into drinking water.

WASA regularly monitors for elevated lead and copper concentrations by collecting water samples at consumer taps. This monitoring also enables us to monitor the effectiveness of the OCCT program. The OCCT program in WASA's distribution system is effective in most cases and the lead concentrations found in drinking water have consistently been below EPA action level requirements since 1994. However, in the annual monitoring period ending June 30, 2002, the lead results indicate that although most homes have very low levels of lead in their drinking water, some homes in the community have lead levels above the EPA action level of 15 parts per billion (ppb).

In a partnership between WASA and DOH, we've prepared this Q&A (questions and answers) brochure to inform you of the effects of lead on your health, and to protect you and your loved ones by reducing your exposure to lead in drinking water as well as from other sources.

While lead isn't found in the District's water supplies or in treated water in the distribution system, some older homes built before 1950 may have elevated lead levels in their drinking water because of lead plumbing fixtures. The information on the following pages will help you determine if you have a problem, and if so, what to do about it.

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Lead Paint in Homes Built Before 1978

Many houses and apartments built before 1978 have paint that contains high levels of lead (called lead-based paint). Lead from paint, chips, and dust can pose serious health hazards if not taken care of properly.

Federal law requires that individuals receive certain information before renting, buying, or renovating pre-1978 housing:

- Landlords have to disclose known information on lead-based paint and lead-based paint hazards before leases take effect. Leases must include a disclosure form about lead-based paint.
- Sellers have to disclose known information on lead-based paint and lead-based paint hazards before selling a house. Sales contracts must include a disclosure form about lead-based paint. Buyers have up to 10 days to check for lead.
- Renovators have to give you information before starting work.
- If you want more information on these requirements, call the National Lead Information Center at 1-800-424-LEAD (424-5323).



Identifying Lead Hazards

Lead-based paint is usually not a hazard if it is in good condition, and it is not on an impact or friction surface, like a window. It is defined by the federal government as paint with lead levels

Lead from paint chips, which you can see, and lead dust, which you can't always see, can both be serious hazards.

greater than or equal to 1.0 milligram per square centimeter, or more than 0.5% by weight.

Deteriorating lead-based paint (peeling, chipping, chalking, crackling or damaged) is a hazard and needs immediate attention.

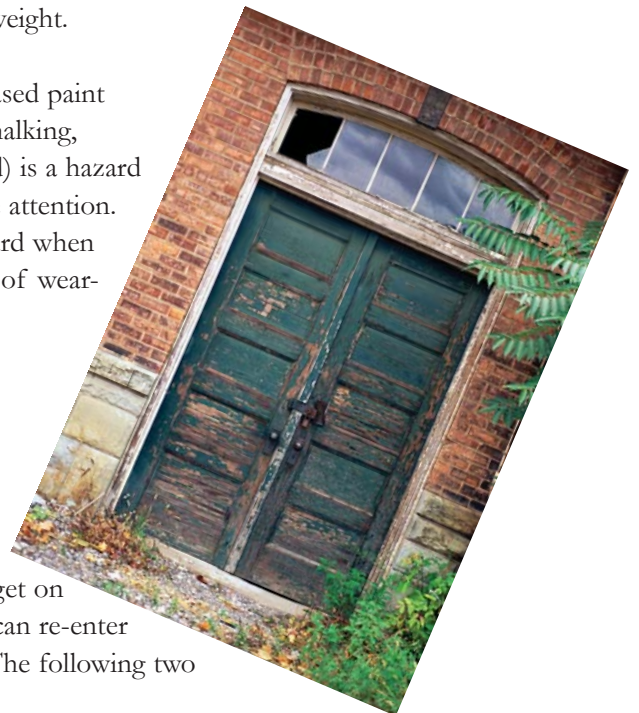
It may also be a hazard when

found on surfaces that children can chew or that get a lot of wear-and-tear, such as:

- Windows and window sills.
- Doors and door frames.
- Stairs, railings, banisters, and porches.

Lead dust can form when lead-based paint is dry scraped, dry sanded, or heated. Dust also forms when painted surfaces bump or rub together. Lead chips and dust can get on surfaces and objects that people touch. Settled lead dust can re-enter the air when people vacuum, sweep, or walk through it. The following two federal standards have been set for lead hazards in dust:

- 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) and higher for floors, including carpeted floors.
- 250 $\mu\text{g}/\text{ft}^2$ and higher for interior window sills.



Lead in soil can be a hazard when children play in bare soil or when people bring soil into the house on their shoes. The following two federal standards have been set for lead hazards in residential soil.

- 400 parts per million (ppm) and higher in play areas of bare soil.
- 1,200 ppm (average) and higher in bare soil in the remainder of the yard.

The only way to find out if paint, dust, and soil lead hazards exist is to test for them. The most common methods used are described below.

Checking Your Home for Lead

You can get your home checked for lead in one of two ways, or both:

- A paint inspection tells you the lead content of every different type of painted surface in your home. It won't tell you whether the paint is a hazard or how you should deal with it.
- A risk assessment tells you if there are any sources of serious lead exposure (such as peeling paint and lead dust). It also tells you what actions to take to address these hazards.

Just knowing that a home has lead-based paint may not tell you if there is a hazard.

Hire a trained, certified professional who will use a range of reliable methods when checking your home, such as:

- Visual inspection of paint condition and location.
- A portable x-ray fluorescence (XRF) machine.
- Lab tests of paint, dust, and soil samples.

There are standards in place to ensure the work is done safely, reliably, and effectively. Contact your local lead poisoning prevention program for more information at the Department of Health (202-535-2690, or call 1-800-424-LEAD for a list of contacts in your area).

Home test kits for lead are available, but may not always be accurate. Consumers should not rely on these tests before doing renovations or to assure safety.

IMPORTANT!

Lead From Paint, Dust, and Soil Can Be Dangerous If Not Managed Properly

FACT: Lead exposure can harm young children and babies even before they are born.

FACT: Even children who seem healthy can have high levels of lead in their bodies.

FACT: People can get lead in their bodies by breathing or swallowing lead dust, or by eating soil or paint chips containing lead.

FACT: People have many options for reducing lead hazards. In most cases, lead-based paint that is in good condition is not a hazard.

FACT: Removing lead-based paint improperly can increase the danger to your family.

What You Can Do Now To Protect Your Family

If you suspect that your house has lead hazards, you can take some immediate steps to reduce your family's risk:

- If you rent, notify your landlord of peeling or chipping paint.
- Clean up paint chips immediately.
- Clean floors, window frames, window sills, and other surfaces weekly. Use a mop or sponge with warm water and a general all-purpose cleaner or a cleaner made specifically for lead. **REMEMBER: NEVER MIX AMMONIA AND BLEACH PRODUCTS TOGETHER SINCE THEY CAN FORM A DANGEROUS GAS.**
- Thoroughly rinse sponges and mop heads after cleaning dirty or dusty areas.
- Clean or remove shoes before entering your home to avoid tracking in lead from soil.



How Does Lead Enter Our Drinking Water?

Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the household plumbing and water service lines. These materials include lead-based solder used to join copper pipe, brass, and chrome-plated brass faucets, and in some cases, pipes made of lead that connect your house to the water main (service lines). In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials to 8.0%.

Are There Screening Measures Available?

The level of lead in your child's blood can be measured, and early detection means early intervention. Measures include:

- A blood test can reveal if there's an elevated level of lead in your child's blood.
- A second blood test is usually done if a child's screening shows that lead may be present. X-rays and other tests may be necessary.
- Follow-up questions will be asked to learn about the child's behavior, health, and symptoms; anything the child has chewed on or swallowed; possible sources of lead; the child's diet; and/or family medical history.
- Other measures may include home inspection for lead sources, or counseling about how to protect children.

Should My Child Be Screened?

In general, all high-risk children need lead screening. For example, state or local health officials may consider a child at high risk if he or she:

- lives in an area that has a high number of older homes (built before 1950),
- lives in or regularly visits a home built before 1950,
- lives in or regularly visits a home built before 1975 that has recently been remodeled, or
- has had a brother or sister with lead problems.

What Else Can I Do to Protect My Child?

In your kitchen you can:

- Feed your child a well-balanced diet that's high in iron, calcium and vitamin C – it helps protect the body against lead.
- Don't store food in open cans.
- Don't use pottery for cooking or serving if you're unsure about its glaze.
- If you suspect lead, draw drinking and cooking water only from the cold tap after letting it run for a minute.
- Have your water tested.

In your home you can:

- Be alert for chipping and flaking paint.
- Use only safe interior paints on toys, walls, furniture, and other items.
- Replace plastic blinds made outside the U.S. with a type that is lead-free.

With your child:

- Don't allow your child to put things in his or her mouth that may be dirty or have paint on them.
- Keep children from chewing window sills or other painted surfaces.
- Don't allow your child to eat snow or icicles.
- Wash children's hands often, especially before they eat and before nap time and bedtime.
- Keep play areas clean. Wash bottles, pacifiers, toys, and stuffed animals regularly.
- Make sure children eat nutritious, low-fat meals high in iron and calcium, such as spinach and dairy products. Children with good diets absorb less lead.



If you work with lead:

- Don't bring it home with you.
- Shower and change before coming home.
- Wash your clothes separately from your family's clothes.
- Follow all occupational safety guidelines for cleaning and storing work clothes and equipment.

What Actions Can I Take to Reduce Exposure to Lead in Drinking Water?

Despite our best efforts mentioned earlier to control water corrosivity and remove lead from the water supply, lead levels in some homes or buildings can be high. To find out whether you need to take action in your home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. Some local laboratories that can provide this service are listed at the end of this booklet.

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If results of a water test indicate that drinking water drawn from a tap in your home contains lead above 15 ppb, then you should take the following precautions:

- Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in your home's plumbing the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15–30 seconds. If your house has a lead service line to the water main, you may have to flush the water for a longer time, perhaps one minute, before drinking. Although toilet flushing or showering flushes water through a portion of your home's plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than one or two gallons of water and costs less than \$3.00 per month at half a penny per gallon. To conserve water, fill a couple of bottles for drinking water after flushing the tap, and whenever possible use the first flush water to wash the dishes or water the plants. The plumbing systems of high-rise buildings have more, and sometimes larger pipes than smaller buildings. (Most larger service lines and associated plumbing fixtures do not contribute significant amounts of lead.) If you live in a high-rise building, letting the water flow before using it may not work to lessen your risk from lead. Ask your landlord for help in locating any sources of lead and for advice on reducing the lead level if appropriate.
- Try not to cook with or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove.
- Remove loose lead solder and debris from the plumbing materials installed in newly constructed homes, or homes in which the plumbing has recently been replaced, by removing the faucet strainers from all taps and running the water from 3–5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.
- If your copper pipes are joined with lead solder that has been installed illegally since it was banned in 1986, notify the plumber who did the work and request that he or she replace the lead solder with lead-free solder. Lead solder looks dull gray, and when scratched with a key looks shiny. In addition, notify EPA Region's Safe Drinking Water Act Enforcement Branch at 215-814-5445 about the violation.
- Have an electrician check your wiring. If grounding wires from the electrical system are attached to your pipes, corrosion may be greater. Check with a licensed electrician or your local electrical code to determine if your wiring can be grounded elsewhere. **DO NOT** attempt to change the wiring yourself because improper grounding can cause electrical shock and fire hazards.



How Do I Know if I Have a Lead Water Service Line?

The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking the city's record of building permits which is maintained in the files of the Department of Consumer and Regulatory Affairs (DCRA) at 202-442-4642. WASA also maintains records of the materials located in the distribution system. Call 202-612-3440 for information.

How Can I Tell if the Plumbing in My House is Lead?

A licensed plumber can at the same time check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead.

What if My Drinking Water Has Elevated Levels of Lead?

If a water test indicates that the drinking water coming from your tap contains lead concentrations in excess of 15 ppb after flushing, or after WASA has completed actions to minimize lead levels, then you may want to take the following additional measures.

- Purchase or lease a home treatment device. Home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of the devices require periodic maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Some activated carbon filters may reduce lead levels at the tap; however, all lead reduction claims should be investigated. Be sure to check the actual performance of a specific home treatment device before and after installing the unit.
- Purchase bottled water for drinking and cooking.

How Can I Get My Service Line Replaced?

If the service line that connects your dwelling to the water main contributes more than 15 ppb to drinking water, after WASA's comprehensive treatment program is in place, WASA is required to implement a multi-year program to replace the portion of the line we own. If the line is only partially owned by WASA, we are required to provide the owner of the privately owned portion of the line with information on how to replace the privately owned portion of the service line, and offer to eventually replace that portion of the line at the owner's expense. If we replace only the portion of the line that we own, we also are required to notify you in advance and provide you with information on the steps you can take to minimize exposure to any temporary increase in lead levels that may result from the partial replacement, to take a follow-up sample at our expense from the line within 72 hours after the partial replacement, and to mail or otherwise provide you with the results of that sample within three business days of receiving the results. An acceptable replacement is copper.

Has WASA Been Replacing Lead Service Lines in Public Space?

Under federal regulations, WASA is required to develop and implement a multi-year program to replace the portion of each lead service line that WASA owns if the line contributes lead concentrations of more than 15 ppb after the implementation of the comprehensive treatment program. The replacement program is underway and will continue until such time as the monitoring results show they no longer exceed 15 ppb. If you have questions about whether the service line serving your home contains lead or how we are carrying out the requirements of the lead regulations, please call WASA at 202-612-3440, between 8 a.m. and 4 p.m.

What is WASA's Lead & Copper Program?

WASA has a number of drinking water quality monitoring programs, one of which is its Lead & Copper Program. One of the treatment objectives for DC's system is to control the corrosivity of water to minimize leaching of lead or copper from customer plumbing in the water. Therefore, WASA regularly monitors for elevated lead and copper concentrations by collecting water samples at consumer taps. Lead concentrations found in these sampling programs comply with EPA's requirements; however, tap water in some homes may contain higher levels of lead.



WASA's recent Lead & Copper Program hosted 53 volunteers who have single-family residences that are served by either lead services, internal lead plumbing or copper pipes with lead solder installed after 1982. During WASA's last sampling program in the summer of 2001 and June 2002, some of these homes tested above 15 ppb. In the District of Columbia, there are approximately 130,000 water service lines and 20,000 of these are lead services.

Who Can I Contact to Obtain More Information?

You can consult a variety of sources for additional information. Government agencies that can be contacted include:

- The WASA Water Quality Division (202-612-3440) can provide you with information about your community's water supply. A list of local laboratories that have been certified by EPA for testing water quality is below.
- The DC Department of Health (DOH) (202-535-2690) can provide you with information about the health effects of lead and how you can have your child's blood tested. Call for free blood lead screening, community outreach and education, medical follow-up services, lead-based paint inspection, and lead-based paint abatement. The DOH is holding free screenings for District children between the ages of 6 months and 6 years old, and expectant mothers. Remember that all children must be tested for daycare enrollment. Call 202-535-2690 for free in-home appointment testing, or walk-in testing is also available at 51 N Street, NE, Suite 3000.
- The DC Department of Consumer and Regulatory Affairs (202-442-4641) can provide you with information about building permit records that should contain the names of plumbing contractors that plumbed your home.
- Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead.

The following is a list of some EPA-certified laboratories in your area that you can call to have your water tested for lead.

AMA Analytical Services, Inc.
4475 Forbes Boulevard
Lanham, MD 20706
301-459-2640

Anabell Environmental, Inc.
8648 Dakota Drive
Gaithersburg, MD 20877
301-548-9425

Envirometric Laboratories, Inc.
354 Hungerford Drive, Suite 100
Rockville, MD 20850
301-838-3091

GPL Laboratories, LLLP
202 Perry Parkway
Gaithersburg, MD 20877
301-926-6802

Metropolitan Environmental
Testing Services, Inc.
179 Smallwood Village Center
Waldorf, MD 20602
301-870-1995

WSSC, LSG
12245 Tech Road
Silver Spring, MD 20904
301-206-7580

*For more information, visit
WASA's Website at
www.dcwasa.com.*

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